Pergamon

Computers Math. Applic. Vol. 29, No. 7, pp. 109–114, 1995
Elsevier Science Ltd. Printed in Great Britain

BOOK REPORTS

The Book Reports section is a regular feature of *Computers & Mathematics with Applications.* It is an unconventional section. The Editors decided to break with the longstanding custom of publishing either lengthy and discursive reviews of a few books, or just a brief listing of titles. Instead, we decided to publish every important material detail concerning those books submitted to us by publishers, which we judge to be of potential interest to our readers. Hence, breaking with custom, we also publish a complete table of contents for each such book, but no review of it as such. We welcome our readers' comments concerning this enterprise. Publishers should submit books intended for review to the Editor-in-Chief,

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Logic Programming: Proceedings of the 1994 International Symposium. Edited by Maurice Bruynooghe. MIT Press, Cambridge, MA. (1994). 690 pages. $75.00.

Contents:

Program committee. The Association for Logic Programming. Series foreword. Preface. Referees. Invited talks. Using constraint logic programming in services: A few short tales. Yannick Cras. Abstract interpretation and partial evaluation in functional and logic programming. Neil D. Jones. Complexity and expressive power of disjunctive logic programming. Georg Gottlob. Combining functional and logic programming languages. J.W. Lloyd. Semantics I. Signed logic programs. Hudson Turner. A syntactic stratification condition using constraints. Kenneth A. Ross. Characterization of some semantics for logic programs with negation and application to program validation. Bernard Malfon. Constraint I. Towards practical interval constraint solving in logic programming. C.K. Chiu, J.H.M. Lee. CLP (Intervals) Revisited. F. Benhamou, D. McAllester, P. Van Hentenryck. Redundancy, variable elimination and linear disequations. Jean-Louis J. Imbert. Program analysis I. An abstract interpretation framework which accurately handles Prolog search-rule and the cut. Baudouin Le Charlier, Sabina Rossi, Pascal Van Hentenryck. An algebraic theory of observables. Marco Comini, Giorgio Levi. Deductive databases. Datalog with integer periodicity constraints. David Towan, Jan Chomicki, David S. Rogers. Efficient incremental evaluation of queries with aggregation. Raghu Ramakrishnan, Kenneth A. Ross, Divesh Srivastava, S. Sudarshan. Analysis of SLG-WAM evaluation of definite programs. Terrance Swift, David S. Warren. Semantics II. Tractable argumentation semantics via iterative belief revision. Jia-Huai You, Robert Cartwright. Probabilistic deductive databases. Laks V.S. Lakshmanan, Fereidoon Sadri. Combinatory logic programming: computing in relation calculi. Paul Broome, James Lipton. Parallelism. Strategies for scheduling and- and or-work in parallel logic programming systems. Inês de Castro Dutra. A simple program transformation for parallelism. Saumya Debray, Mudita Jain. Effectiveness of global analysis in strict independence-based automatic parallelization. F. Bueno, M. García de la Banda, M. Hermenegildo. Constraints II. Conjunto: Constraint logic programming with finite set domains. Carmen Gervet. The beauty and beast algorithm: Quasi-linear incremental tests of entailment and disentailment over trees. Andreas Podelski, Peter Van Roy. Program analysis II. Abductive analysis of modular logic programs. Roberto Giacobazzi. Localizations of unification freedom through matching directions. Massimo Marchiori. Inference methods. Intuitionistic implication and resolution. Alain Hui-Bon-Hoa. SLX—A top-down derivation procedure for programs with explicit negation. José Júlio Alferes, Carlos Viegas Damásio, Luís Moniz Pereira. LR inference: Inference systems for fixed-mode logic programs, based on LR parsing. David A. Rosenblueth, Julio C. Peralta. Program Analysis III. Cardinality analysis of Prolog. C. Braem, B. Le Charlier, S. Modart, P. Van Hentenryck. Mutually exclusive rules in logic programming. Kjell Post. Detection and optimization of suspension-free logic programs. Saumya Debray, David Gudeman, Peter Bigot. Concurrent constraint programming. Encapsulated search for higher-order concurrent constraint programming. Christian Schulte, Gert Smolka. AKL(FD)—A concurrent language for FD programming. Björn Carlson, Seif Haridi, Sverker Janson. Artificial intelligence. The situation calculus and event calculus compared. Robert Kowalski, Fariba Sadri. SLD-resolution with reflection. Jonas Barklund, Pierangelo Dell'Acqua, Stefania Costantini, Gaetano A. Lanzarone. Analysis of constraint logic programs. Approximating interaction between linear arithmetic constraints. Kimbal Mariott, Peter J. Stuckey. Optimizing compilation of linear arithmetic in a class of constraint logic programs. Spiro Michaylov, Bill Pippin. Implementation. A continuation-passing style for Prolog. Thomas Lindgren. A portable method for integrating SLG resolution into Prolog systems. R. Ramesh, Weidong Chen. An abstract machine for SLG resolution: Definite programs. Terrance Swift, David S. Warren. Program analysis IV. Improving abstract interpretations by systematic lifting to the powerset. Gilberto Filé, Francesco Ranzato. Poster abstracts. Declarative error diagnosis as consistency-based diagnosis. Gregory W. Bond, Bernie Pagurek. Avoiding dynamic type checking in a polymorphic logic programming language. Pascal Brisset. Modal event calculus. Iliano Cervesato, Luca Chittaro, Angelo Montanari. Parsing with PTN. Andrew Davison, Elizabeth Haywood. On stable behaviour of dynamic deductive data bases. Michael I. Dekhtyar, Alexander Ja. Dikovsky. Data alignment and task scheduling on parallel machines using concurrent constraint model-based programming. Jean Jourdan, François Fages, Didier Rozzonelli, Alaine Demeure. Constraint logic programming for planning. Jonathan Lever. 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Wavelets, Images, and Surface Fitting. Edited by Pierre-Jean Laurent, Alain Le Méhauté and Larry L. Schumaker. A.K. Peters, Wellesley, MA. (1994). 528 pages. $69.95.

Contents:

Preface. Contributors. A vector spline quasi-interpolation. L. Amodei and M.N. Benbourhim. Implementation on a shared memory parallel computer of algorithms for approximating data on a family of parallel lines. I.J. Anderson, M.G. Cox, S. Harbour, and J.C. Mason. Wavelet methods for smoothing noisy data. A. Antoniadis. Quasi-interpolants and (quasi-) wavelets P(D) manifold. M. Atteia. Fast DCT-algorithms, interpolating wavelets, and hierarchical bases. G. Baszenski and M. Tasche. Spline curves and surfaces with tension. A. Bouhamidi and A. Le Méhauté. Irregularity detection from noisy data with wavelets. M. Bozzini, F. De Tisi, and M. Rossini. Natural neighbor interpolation on the sphere. J.L. Brown. Error estimates for periodic interpolation by translates.

G. Brumme. An energy-based paradigm for multimodal images fusion. L. Brunie and P. Cinquin. Radial basis functions: L^p-approximation orders with scattered centres. M.D. Buhmann and A. Ron. 3D curve reconstruction from degraded projections. B. Chalmond, F. Coldefy, and B. Lavayssiére. A study of compactly supported scaling functions and wavelets. Charles Chui and J. Wang. Multiresolution analysis and wavelets on locally compact Abelian groups. S. Dahlke. Some remarks on multiscale transformations, stability, and biorthogonality. W. Dahmen. Fractal interpolation functions for a class of finite elements. S. De Marchi and M. Morandi Cecchi. Adaptive wavelet bases for image compression. R.A. De Vore. A quasi-interpolant box-spline formulation for image compression and reconstruction. H. Diamond, L. Arakelian Raphael, and D.A. Williams. The subdivision experience. N. Dyn and D. Levin. Banded matrices with banded inverses III: p-slanted matrices. M. Gasca, Charles A. Micchelli, and J.M. Peña. Invariant approximation of star-shaped form for medical applications. F. Ghorbel and V. Burdin. Surface construction based on variational principles. G. Greiner. Direct methods for constructing positive spline interpolants. W. Heß and J.W. Schmidt. Conditionally lower Riesz bounds for scattered data interpolation. K. Jetter. The 'face lift' algorithm. J. Kaasa and G. Westgaard. Some generic properties of the set of cross-sections and the set of orthogonal projections of a smooth surface. Y.L. Kergosien. Splines constructed by pieces of polyharmonic functions. O.I. Kounchev. On the fast evaluation of integrals of refinable functions. A. Kunoth. Rational C^{k+1} finite elements in $\mathbb{R}^2$. A. Le Méhauté and K.N. Agbévé. Convolution kernels for approximation by radial basis functions. J. Levesley. Using radial functions on compact domains. W. Light. Smoothing noisy data by Kriging with nugget effects. P. Montès. Nonnegative interpolation by biquadratic splines on refined rectangular grids. B. Mulansky and J.W. Schmidt. Spline wavelets with higher defect. G. Plonka. Regularity analysis of non-uniform data. C. Potier and C. Vercken. A duality principle for trigonometric wavelets. J. Prestin and E. Quak. Decomposition and reconstruction algorithms for Bivariate spline wavelets on the unit square. E. Quak and N. Weyrich. Some criteria to evaluate the quality of a quasi-interpolant. C. Rabut. Hölder regularity of subdivision schemes and wavelets. O. Rioul. Herminte and Lagrange interpolation by quadratic splines on non-uniform criss-cross triangulations. P. Sablonnière and F. Jeeawock-Zedek. Partial differential equation techniques for surface determination. C. Sbert. Approximation of polynomials by radial basis functions. R. Schaback. Modeling of geological surfaces using finite elements. J. Springer. Orthogonal periodic spline wavelets. Manfred Tasche. Approximation of parametric surfaces with discontinuities by discrete smoothing D^m-splines. J.J. Torrens. Wavelet analysis of refinable functions. Lars F. Villemoes. Interpolation of an arbitrary rectangular mesh with local control and prescribed continuity. M. Walker. Constrained surface fitting using Powell-Sabin splines. K. Willemans and P. Dierckx. B-spline patches for surface reconstruction in computer vision. C. Zhao and Roger Mohr.

Adapted Wavelet Analysis from Theory to Software. Mladen Victor Wickerhauser. A.K. Peters, Wellesley, MA. (1994). 486 pages. $59.95.

Contents:

1. Mathematical preliminaries. 2. Programming techniques. 3. The discrete Fourier transform. 4. Local trigonometric transforms. 5. Quadrature filters. 6. The discrete wavelet transform. 7. Wavelet packets. 8. The best basis algorithm. 9. Multidimensional library trees. 10. Time-frequency analysis. 11. Some applications. A. Solutions to some of the exercises. B. List of symbols. C. Quadrature filter coefficients. Bibliography. Index.

Wavelet Packet Laboratory for Windows, Version 1.0; User's Manual and Theoretical Manual. By Digital Diagnostic Corporation and Yale University. A.K. Peters, Wellesley, MA. (1993). 104 pages. $300.00 (diskette included).

Contents:

User's Manual: Introduction. Getting Started. Tutorial. Reference. Phase plane window. Coefficient list window. Operation. Layer map window. Appendix. Theoretical Manual: I. Overview. 1. Introduction. 2. Waveform libraries. II. Mathematical background. 1. Libraries of orthonormal bases. 2. The "best basis algorithm." 3. Time-frequency analysis. 4. The Haar system and related algorithms. 5. Walsh functions. 6. General wavelet packets. 7. Denoising and coherent structure extraction. III. Applications. 1. Filtering and denoising. 2. Multiscale analysis. 3. Periodic patterns on different scales. 4. Sonograms and LCT. References.

Genius in the Shadows, a Biography of Leo Szilard, the Man behind the Bomb. By William Lanouette with Bela Silard, foreword by Jonas Salk. University of Chicago Press, Chicago. (1992). 587 pages. $18.95.

Contents:

Foreword by Jonas Salk. Preface. Part 1 (1898–1933) 1. The family. 2. View from the villa. 3. Schoolboy, soldier, and socialist. 4. Scholar and scientist. 5. Just friends. 6. Einstein. 7. Restless research and the Bund. 8. A new world, a new field, a new fear. 9. Refuge. Part 2 (1933–1945) 10. "Moonshine." 11. Chain-reaction "obsession." 12. Travels with Trude. 13. Bumbling toward the bomb. 14. "I haven't thought of that at all." 15. Fission + fermi = frustration. 16. Chain reaction versus the chain of command. 17. Visions of an "armed peace." 18. Three attempts to stop the bomb.... 19. ... And two to stop the army. Part 3 (1946–1964) 20. A last fight with the general. 21. A new life, an old problem. 22. Marriage on the run. 23. Oppenheimer and Teller. 24. Arms control. 25. Biology. 26. Beating cancer. 27. Meeting Khrushchev. 28. Is Washington a market for wisdom? 29. Seeking a more livable world. 30. La Jolla: Personal peace. Epilogue. Chronology of Leo Szilard's life. Acknowledgments. Notes. Selected bibliography. Index.

Galileo, Courtier: The Practice of Science in the Culture of Absolutism. By Mario Biagioli. University of Chicago Press, Chicago. (1993). 402 pages. $16.95.

Contents:

List of illustrations. Acknowledgments. Prologue. Court culture and the legitimation of science. 1. Galileo's self-fashioning. 2. Discoveries and etiquette. 3. Anatomy of a court dispute. 4. The Anthropology of incommensurability. Intermezzo. Roma Theatrum Mundi. 5. Courtly comets. 6. Framing Galileo's trial. Epilogue. From patronage to academics: A hypothesis. References. Index.

Cyberspace and the Law: Your Rights and Duties in the On-line World. By Edward A. Cavazos and Gavino Morin. MIT Press, Cambridge, MA. (1994). 215 pages. $19.95.

Contents:

Preface. 1. Defining cyberspace. 2. Electronic privacy. 3. The virtual marketplace: Business transactions on the Net. 4. Intellectual property in cyberspace: Copyright law in a new world. 5. Harmful and dangerous words and the First Amendment. 6. Adult material: Drawing the line between the legal and the illegal. 7. Cyber-crimes: Pitfalls for the unwary traveler. Notes. Appendices. A. Where to go for more help. B. The electronic communications privacy act. C. 18 U.S.C. §1465: Transportation of obscene matter for sale or distribution. D. 7 U.S.C. §223: Obscene or harrassing telephone calls. E. Federal child pornography statute. F. State child pornography statutes. G. The computer fraud and abuse act. H. The Texas computer crime law. I. State computer crime laws. Index.

Elements of Linear Algebra. By P. M. Cohn. Chapman & Hall, London. (1994). 226 pages. $24.95.

Contents:

Preface. Note to the reader. Introduction. 1. Vectors. 2. The solution of a system of equations: The regular case. 3. Matrices. 4. The solution of a system of equations: The general case. 5. Determinants. 6. Coordinate geometry. 7. Coordinate transformations and linear mappings. 8. Normal forms of matrices. 9. Applications I. Algebra and geometry. 10. Applications II. Calculus, mechanics, economics. Answers to the exercises. Notation and symbols used. Bibliography. Index.

Quantum Mechanics: Historical Contingency and the Copenhagen Hegemony. By James A. Cushing. University of Chicago Press, Chicago. (1994). 317 pages. $65.00, £51.95 (cloth); $27.00, £21.50 (paper).

Contents:

Preface. Acknowledgments. 1. Theory construction and selection. 2. Formalism, interpretation, and understanding. 3. Standard quantum theory. 4. Bohm's quantum theory. 5. Alternative interpretations: An illustration. 6. Opposing commitments, opposing schools. 7. Competition and forging Copenhagen. 8. Early attempts at causal theories: A stillborn program. 9. The fate of Bohm's program. 10. An alternative scenario? 11. Lessons. Notes. References. Author index. Subject index.

Differential Equations and Its Applications. Edited by M. Farkas and Z. Sebestyén. North-Holland, Amsterdam. (1991). 396 pages. Dfl. 320.00 $183.00.

Contents:

Contents. Preface. The differential equations of the classical orthogonal polynomials derived from recurrence formulae. A.L.W. von Bachhaus. A new exact solution to the classical equations of motion of the relativistic string with massive ends. B.M. Barbashov and A.M. Chervyakov. Asymptotic eigenvalue distribution of elliptic operators of second order in self-similar irregular domains of the Maz'ja class. G. Berger. Existence and multiplicity results for semilinear beam equations. J. Berkovits and V. Mustonen. Nonlinear differential equation with self-excited and parametric excitations. Tran Kim Chi and Nguyen Van Dao. Harmonic excitation of a two-degree-of-freedom system having cubic nonlinearities. Nguyen Van Dao. Periodic boundary value problem for a matrix differential equation. T. Dłotko. Arc length as bifurcation parameter in elementary Beam theory. G. Domokos. Positivity of the finite difference scheme for the linear parabolic problem. I. Faragó. Integral equation method for three-dimensional partial differential equations. R.H. Farzan. A stability property of A-methods for solving ordinary differential equations. A. Galántai. ω-limit sets in Banach spaces. B.M. Garay. Reaction-diffusion systems in biology. V. Hutson. Stability investigation of a nonlinear parabolic equation. V. Kertész. On the approximation scheme for the abstract Bernoulli multilinear equation. Z. Kiełek. Asymptotic stability of linear nonautonomous dissipative hyperbolic partial differential equation. M. Klincsik. A generalization of Ingham's inequality. V. Komornik. Mixed selfadjoint boundary conditions for the wave equation. K. Kreith. A bifurcation of periodic solutions to ordinary differential inequalities. M. Kuěra. Oscillation of general systems of two functional differential equations. J. Mikołajski. Sets of fractional dimensions. Á. Nágel. Existence results for strongly nonlinear functional-elliptic problems. L. Simon. The asymptotic behaviour of trajectories of singularly perturbed dynamical systems. M.Yu. Skvortsov and M.I. Vishik. The oscillatory behaviour of solutions of linear differential equations with delay argument. A. Tecław and J. Werbowski. Some existence and uniqueness results for solution of some quasilinear elliptic equations on compact Riemannian manifolds. L. Veron. On a functional integrability and asymptotic properties of some nonlinear ordinary differential equations. A. Wyrwińska. Variational inequalities with degenerate elliptic operators. W.P. Ziemer.

An Introduction to Computational Learning Theory. By Michael J. Kearns and Umesh V. Vazirani. MIT Press, Cambridge, MA. (1994). 207 pages. $32.50.

Contents:

Preface. 1. The probably approximately correct learning model. 2. Occam's razor. 3. The Vapnik-Chervonenkis dimension. 4. Weak and strong learning. 5. Learning in the presence of noise. 6. Inherent unpredictability. 7. Reducibility in PAC learning. 8. Learning finite automata by experimentation. 9. Appendix: Some tools for probabilistic analysis. Bibliography. Index.

Exact Controllability and Stabilization; The Multiplier Method. by V. Komornik. John Wiley & Sons/Masson, Chichester/Paris. (1994). 156 pages. $31.95, £19.95.

Contents:

Preface. 0. Introduction. Vibrating strings. 1. Linear evolutionary problems. 2. Hidden regularity. Weak solutions. 3. Uniqueness theorems. 4. Exact controllability. Hilbert uniqueness method. 5. Norm inequalities. 6. New uniqueness and exact controllability results. 7. Dissipative evolutionary systems. 8. Linear stabilization. 9. Nonlinear stabilization. 10. Internal stabilization of the Korteweg-de Vries equation. References.

Between Copernicus and Galileo; Christoph Clavius and the Collapse of Ptolemaic Cosmology. By James M. Lattis. University of Chicago Press, Chicago. (1994). 293 pages. $54.00, £43.25 (cloth); $22.50, £17.95 (paper).

Contents:

List of illustrations. Preface. Note on editions. 1. Clavius's astronomical work and life. 2. Jesuit mathematics and Ptolemaic astronomy. 3. The defense of Ptolemaic cosmology. 4. The rival cosmologies. 5. Cosmological debate and the rebuttal of Copernicus. 6. Strains on Ptolemaic cosmology, inside and out. 7. Galileo, Tycho, and the fate of the celestial spheres. Conclusion. Notes. Bibliography. Index.

On Knowing—The Natural Sciences. By Richard McKeon; compiled by David B. Owen, edited by David B. Owen and Zahava K. McKeon. University of Chicago Press, Chicago. (1994). 405 pages. $65.00 (cloth), $17.95 (paper).

Contents:

List of figures and tables. Foreword. Lecture 1. An introduction to philosophic problems. Lecture 2. Philosophic problems in the natural sciences. Lecture 3. Motion: Method. Lecture 4. Motion: Method (Part 2) and principle. Lecture 5. Motion: Interpretation. Lecture 6. Motion: Selection. Lecture 7. Motion: Selection (Part 2). Lecture 8. Space: Time: Method, interpretation, and principle. Lecture 9. Time: Method, interpretation, and principle. Lecture 10. Summary: Interpretation, method, and principle. Appendices. A. Class schedule. B. Selected lecture notes on necessity, probability and nature. C. Selected lecture notes on Democritus and the Sophists. D. Selected lecture notes on cause. E. Complete lecture notes for Lecture 10. F. Discussion notes for Einstein. G. Final examinations. H. Schema of Philosophic semantics. Notes. Index.

Applied Mathematics in Aerospace Science and Engineering. Edited by Angelo Miele and Attilio Salvetti. Plenum Press, New York. (1994). 510 pages. $110.00.

Contents:

Part 1. Fluid mechanics. 1. Slow variations in fluid mechanics. M. Van Dyke. 2. Computer-extended series in fluid mechanics. M. Van Dyke. 3. Solving the equations of compressible viscous flow about aerospace configurations. R.W. MacCormack. 4. Mathematical problems in the gas dynamics of high-altitude flight. C. Cercignani. 5. Toward a unification of potential and viscous aerodynamics: Boundary integral formulation. L. Morino. 6. Numerical solution of the Navier-Stokes Equations for viscous compressible flows. C. Carlenzoli, A. Quarteroni, and A. Valli. Part 2: Flight mechanics and control. 7. Singular perturbations in flight mechanics. A.J. Calise. 8. Multi-phase trajectory optimization methods with applications to hypersonic vehicles. C. Jänsch, K. Schnepper, and K.H. Well. 9. Offline and online computation of optimal trajectories in the aerospace field. H.J. Pesch. 10. Optimal wind energy extraction for dynamic soaring. G. Sachs. 11. Introduction to optimal trajectories for aeroassisted orbital transfer. A. Miele and B.S. Lee. Part 3. Dynamics and structures. 12. Lyapunov stability theory based control of uncertain dynamical systems. G. Leitmann. 13. Stability problems in space flight mechanics. P. Santini. 14. Numerical approximations in analytical dynamics. M. Borri. 15. Effects of plasticity of metallic materials on fatigue and fracture mechanics. A. Frediani. 16. Mathematical models and their use in engineering. E. Antona. Part 4. Mathematical techniques. 17. Recent mathematical methods for engineering system design, Part 1: Overcoming Bellman's curse of dimensionality in large optimization problems. J. Sobieszczanski-Sobieski. 18. Recent mathematical methods for engineering system design, Part 2: System approach in engineering optimization. J. Sobieszczanski-Sobieski. 19. Numerical treatment of quasi-singular integrals in dynamic response problems. P. Santini. 20. Symbolic calculus computations in the aerospace field. C. Maccone. Index.

Designing Engineers. By Louis L. Bucciarelli. MIT Press, Cambridge, MA. (1994). 220 pages. $24.95.

Contents:

Preface. 1. Introduction. 2. Engineering observations. 3. The object. 4. Cosmology. 5. Ecology. 6. Design discourse. 7. Endings. Notes. Index.

Quantum Field Theory in Curved Spacetime and Black Hole Thermodynamics. By Robert M. Wald. University of Chicago Press, Chicago. (1994). 205 pages. $50.00, £39.95 (cloth); $16.95, £13.50 (paper).
Contents:

Preface. Notation, conventions, and terminology. 1. Introduction and overview. 2. Quantum mechanical preliminaries. 3. Quantum fields in flat spacetime. 4. Quantum fields in curved spacetime. 5. The Unruh effect. 6. Classical black hole thermodynamics. 7. The Hawking effect. Appendix. Some basic definitions and constructions pertaining to Hilbert spaces. References. Notation index. General index.

Design Patterns for Object-Oriented Software Development. By Wolfgang Pree. Addison-Wesley, Reading, MA. (1995). 268 pages. $39.75.
Contents:

Foreword. Preface. 1. Impact of object-oriented software development on software quality. 2. Concepts of object-oriented software development. 3. Survey of design pattern approaches. 4. Metapatterns. 5. Same applications of the metapattern approach. 6. Implications for software development. Appendices. A. Hypertext system sources. B. Glossary. C. How to obtain the hypertext system sources. Bibliography. Index.

Scientific and Engineering C++: An Introduction with Advanced Techniques and Examples. By John J. Barton and Lee R. Nackman. Addison-Wesley, Reading, MA. (1994). 671 pages. $54.95.
Contents:

Preface. I. Getting started. 1. Introduction. 2. Basics for FORTRAN programmers. 3. Basics for C programmers. 4. Classes. 5. Functions. 6. Functions and classes. 7. Object lifetime and memory management. 8. An example program. II. Expressing commonality. 9. Expressing common behavior. 10. Expressing common implementation. 11. Expressing common structure. 12. Types. III. Applications and techniques. 13. Arrays. 14. Pointer classes. 15. Classes for code organization. 16. Algebraic structure categories. 17. Function objects. 18. Using legacy libraries. 19. Data modeling in C++. References. Index. Source file index.

Bugs in Writing: A Guide to Debugging Your Prose. By Lyn Dupré. Addison-Wesley, Reading, MA. (1995). 645 pages. $19.95.
Contents:

1. Passive or missing agents. 2. You and your reader. 3. So, so that, such that. 4. Two or more. 5. Only. 6. Redundant terms. 7. Pronouns. 8. Undefined this. 9. Motivate. 10. Oxymorons. 11. Shall versus will. 12. Key terms. 13. Proven versus proved. 14. Everyone, someone, no one, none. 15. Colon. 16. Effort. 17. Which versus that. 18. Spread-out phrases. 19. While. 20. Repeated prepositions. 21. Abbreviations and acronyms. 22. Verbize. 23. Commas. 24. Number spelling. 25. Impact. 26. Lists. 27. Like versus such as. 28. Either and both. 29. Hyphens. 30. Full versus incomplete infinities. 31. Titles. 32. Contractions. 33. Per. 34. Number styles. 35. Quotations. 36. Fuzzy words. 37. Parentheses. 38. Split infinities. 39. Is due to. 40. Center on. 41. Quotation marks. 42. Remarks inserted after that. 43. Figure captions. 44. Data. 45. Ensure, assure, insure. 46. Foreword versus forward. 47. Blocks: Theorems, proofs, lemmas. 48. Above and below. 49. En dashes. 50. As to whether. 51. Who versus that. 52. Though. 53. References to parts. 54. Dates and times of day. 55. Reason is because. 56. With terms. 57. Equals. 58. Placement of adverbs. 59. U.S. versus British spelling. 60. Placement of prepositions. 61. Different from. 62. Callouts. 63. Exclamation point. 64. Deduce versus infer. 65. Citations. 66. The fact that. 67. Cross references. 68. Proposals. 69. Better, best, worst. 70. Missing words. 71. Aggrevate. 72. Upon. 73. Whether versus if. 74. Sections and heads. 75. Comprise. 76. In order to. 77. Em dashes. 78. Eminent, emanate, imminent, immanent. 79. Expected but nonarriving agents. 80. Its versus it's. 81. Adverbs versus adjectives. 82. Persons versus people. 83. Caps/lc. 84. Feel versus think. 85. Parallelism. 86. Points of ellipsis. 87. Last. 88. Focus on. 89. Troublesome plurals. 90. Around. 91. Nose. 92. Literal and virtual. 93. Semicolon. 94. Code. 95. Comparatives. 96. Tables. 97. Tense. 98. Abstracts. 99. Neither nor. 100. Will likely be. 101. Importantly. 102. Since. 103. References. 104. Cannon versus can not. 105. Also. 106. Nonwords. 107. Missing that. 108. All of. 109. Utilize. 110. Dissertations. 111. Issue. 112. Terms for human-computer interaction. 113. So called. 114. Note that versus notice that. 115. Affect versus effect. 116. Indices versus indexes. 117. Solidus. 118. Equations. 119. Half. 120. Media. 121. Not versus rather than. 112. Visual aids for presentations. 123. Plural abbreviations. 124. Style sheets and spell checkers. 125. Maybe versus may be. 126. Figures. 127. Gender-specific words. 128. Continuous versus continual. 129. Fewer versus less. 130. Italic type. 131. Truncated words. 132. Percent. 133. Object, modifier, activity. 134. Rewords. 135. Further versus farther. 136. Pronouns for recipients. 137. Authorship on research articles. 138. Respectively. 139. Possessives. 140. Clichés, jargon, and euphemisms. 141. Design elements and eye. 142. Word match. 143. Sex versus gender. 144. Awhile. 145. Footnotes. 146. Mouth. 147. Boxes. 148. Exercises, examples, and questions. 149. Writer's block. 150. Acknowledgments.